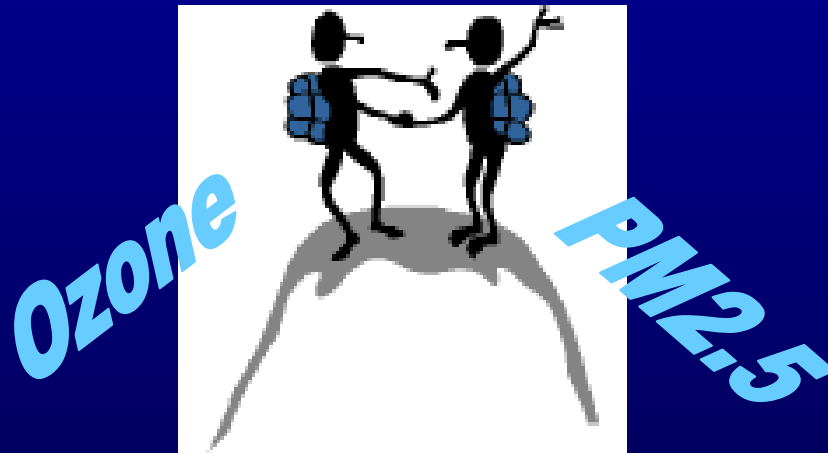


Putting It all Together: Incorporating Fine Particle Outreach in a Predominantly Ozone Area



Lewis Weinstock

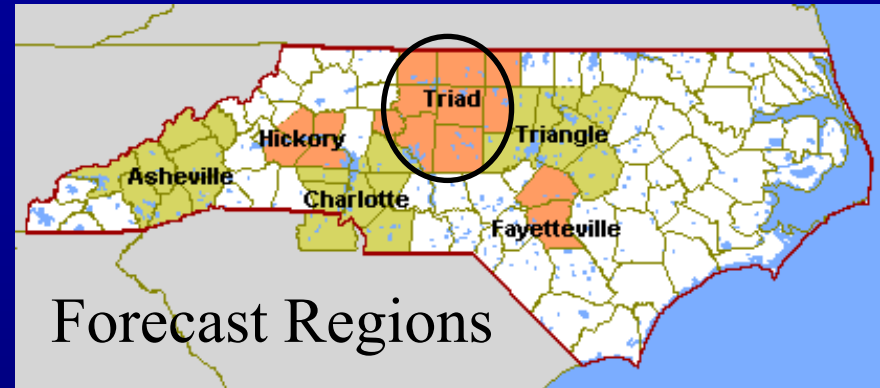
Forsyth County Environmental Affairs Department, Winston-Salem, NC

336-727-8060

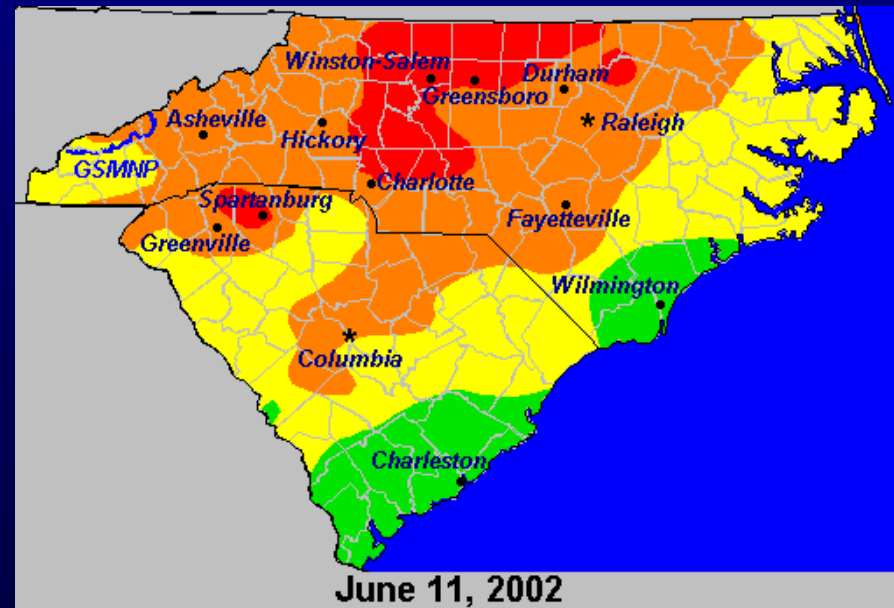
weinstl1@co.forsyth.nc.us

Air Quality Issues in NC

- Problem area for O_3 and $PM_{2.5}$.
- Early history of 1-hr O_3 nonattainment.
- Multiple areas on track for 8-hr O_3 nonattainment.
- Potential violations of $PM_{2.5}$ annual standard.
- O_3 forecasting has become well recognized and receives good media attention.



Courtesy: NC Division of Air Quality



PM_{2.5} Forecasting in the Triad

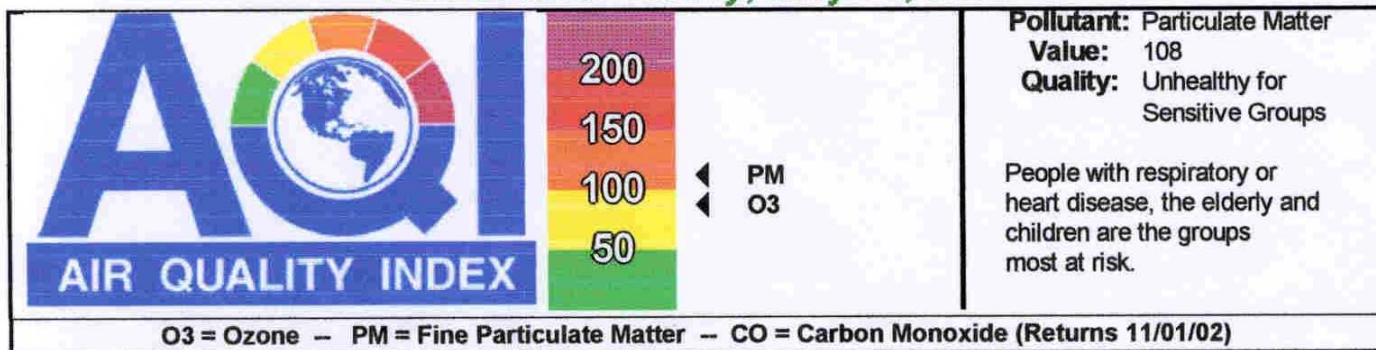
- Forsyth County began issuing PM_{2.5} forecasts in 2000 during O₃ “off-season”.
- Transitioned to year-round multiple pollutant (O₃, PM_{2.5}, CO) program in 2001.
- Technical challenges included:
 - New forecasting & verification techniques.
 - Fewer sources of ambient data.
 - Retooled display graphics.
 - Staffing logistics.
- Details at:
<http://www.co.forsyth.nc.us/EnvAffairs/PM25Forecasting.htm>

Forsyth County Environmental Affairs Department
Daily Air Quality Report & Forecast for the Triad, N.C.

This report will be updated by 3:00 PM each business day.

This report is valid for Forsyth, Guilford, Alamance, Davidson, Randolph, Rockingham, Caswell, Davie, & Stokes counties in North Carolina.

Forecast for Friday, July 19, 2002



Forecast Summary

	Thu (07/18/02)	Fri (07/19/02)	Sat (07/20/02)	Sun (07/21/02)
DOMINANT POLLUTANT	Particulate Matter	Particulate Matter	Ozone	Particulate Matter
COLOR	ORANGE	ORANGE	YELLOW	YELLOW
AQI	126	108	74	52

[Color Code Description Link](#)

Synopsis and Discussion

Very light overnight winds combined with an already polluted atmosphere to drive fine particle levels to the highest summertime readings since PM2.5 monitoring began in 1999. Slightly cleaner air is trying to work through the Triad from the west this afternoon, but fine particle levels will stay elevated overnight and maintain Code Orange readings into Friday. People with respiratory or heart disease, the elderly and children should limit prolonged outdoor exertion until the haze begins to clear. Ozone is also reaching Code Orange in the eastern part of our forecast area although levels are running a bit behind Wednesday's pace. Ozone readings should decrease into the upper Yellow on Friday although continued hot temperatures and partly cloudy skies will maintain a slight Code Orange risk. Air quality should return to the Moderate level for the weekend as the upper air ridge weakens, allowing more triggers for showers and thunderstorms into the area (WEINSTOCK).

Key Outreach Challenges (PM_{2.5} vs. O₃)

- Year-round vs. O₃ season.
- Less “bad” days.
- Different averaging time and diurnal cycle.
- Different health effects language, sensitive population, and outreach “tips”.
- Issuing PM_{2.5} “alerts” ?
- Differentiating O₃ and PM_{2.5} episodes.
- Not confusing the heck out of everybody including ourselves.



Courtesy of www.swri.org

Media “Successes”



Year-round daily printing in Greensboro & Winston-Salem newspapers. Periodic regular coverage on television and news radio. Constant oversight is necessary to maintain coverage and accuracy.



PM_{2.5} Program Adaptations

- Introduced PM_{2.5} references into forecast discussions.
- Issued PM_{2.5} alerts (USG or higher) with altered health language.
- Emphasized diurnal pattern differences (PM_{2.5} often rises at night!).
- Conduct basic PM_{2.5} education during outreach presentations.



**TRIAD AIR QUALITY ALERT (O₃ & PM)
CODE ORANGE (101-150 AQI)
for Thursday, July 18, 2002**

Attn: CLEAN AIR COORDINATORS

AQI readings are currently in the Code Orange range this afternoon for both Ozone and Fine particulate matter (PM). Tomorrow is forecast to be a Code Orange day for ozone and PM.

Protect your health:

Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion. There is an increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.

How to keep the air clean:

- 🚲 Ride to work with a friend or take public transportation.
- 🗲 Bring your lunch instead of driving, combine trips & errands.
- 🚗 Postpone lawn mowing & refueling of cars until after 6 pm.

FOR MORE INFORMATION (336-727-8060):

- ? Lorelei Elkins, Triad Air Awareness Coordinator
- ? Lewis Weinstock, Air Quality Forecast Team
- ? On the web, <http://www.co.forsyth.nc.us/EnvAffairs/>

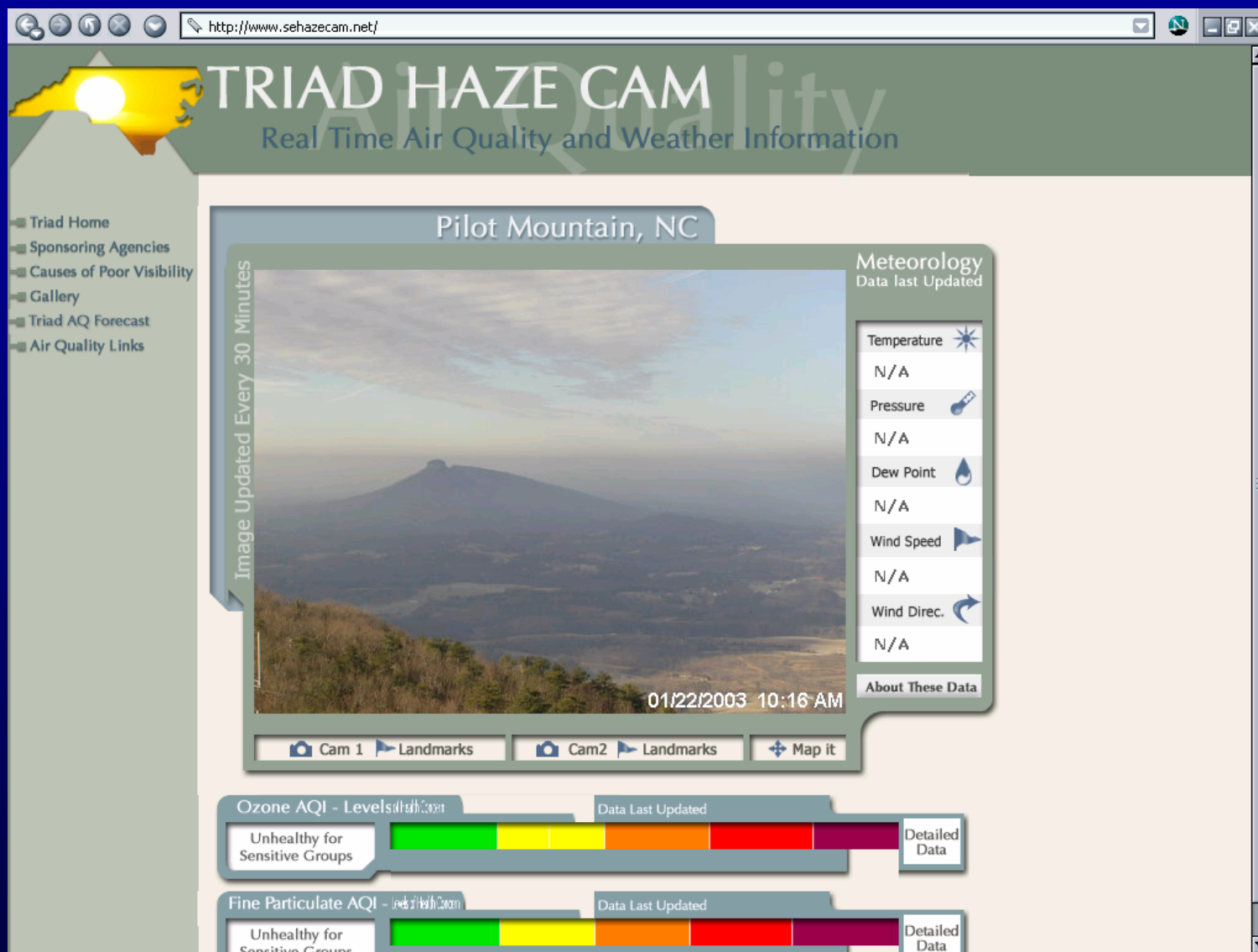
Sponsored by the Forsyth County Environmental Affairs Department and the North Carolina Department of Environment and Natural Resources

This alert is valid for Forsyth, Guilford, Alamance, Davidson, Randolph, Rockingham, Caswell, Davie, & Stokes counties in North Carolina.

- When ozone is high.....Active children and adults and people with respiratory disease, such as asthma should limit prolonged outdoor exertion. Time shift outdoor activities to the morning or evening when ozone is typically lower.

- When PM is high.....People with respiratory or heart disease, the elderly and children should limit prolonged outdoor exertion. Levels typically increase at night and during early morning so caution is advisable throughout the day.

Establishing Link to Visibility



**When Fine Particles are High...
Turn to Van Denton**



The importance of air quality forecasting and fine particle information to the media. A conversation with Van Denton, Chief Meteorologist of FOX8 – WGHP (7.5 minutes).